

REMARKS

Applicants have carefully considered the June 24, 2005 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Claims 1-19 were pending in this application. In response to the Office Action dated June 24, 2005, claims 1-19 have been canceled and new claims 20-31 have been added. Independent claim 20 is based on original claim 1 as well as page 43, line 20 and Figs 13, 18 and 19. Claim 20 positively recites an optical fiber for Raman amplification and describes an optical transmission system having a structure for lumped Raman amplification. claim 20 further describes that the Raman amplification pumping light includes a plurality of pumping channels, and reaches part of the optical transmission line by way of the optical fiber for Raman amplification. Independent claim 23 is a combination of original claims 11 and 14. Independent claim 30 is a combination of new claim 20 as well as the disclosure as described at page 21, line 26 through page 22, line 1. Each of independent claims 21, 24 and 31 recites subject matter disclosed on page 15, lines 15-16 as well as original claim 6. Each of new claims 22 and 26 is supported in the specification at page 45, lines 8-9. New claims 25, 27 and 28 correspond to original claims 6, 16 and 17, respectively. Further, new claim 29 is supported by the specification at page 44, lines 18-22.

Care has been exercised to avoid the introduction of new matter. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification. Applicants submit that the present Amendment does not generate any new matter issue. Entry of the present Amendment is respectfully solicited. It is believed

Application No.: 10/607,380

that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

The Examiner objected to the abstract for allegedly exceeding the limit of 150 words. Applicants respectfully traverse and submit that the abstract is only 134 words in total and, therefore in compliance with the limit imposed by the USPTO. Accordingly, reconsideration and withdrawal of the objection are solicited.

A courtesy copy of the non-patent reference entitled, "Fiber Fabrication, Properties, and Measurement" William A. Reed, Lucent/Bell Labs, USA, Presider, Wednesday Morning/OFC2002/ pp.171-172, cited in the Information disclosure statement field on June 27, 2003, is submitted concurrently herewith. Applicants note that, as indicated by the stamped acknowledgement postcard, a copy of the reference was previously submitted on June 27, 2003. Accordingly, the Examiner's consideration of the reference is solicited and Applicants respectfully request that an initialed copy of the PTO-1449 be forwarded to Applicants with the next Office communication.

Claim 1 was rejected under 35 U.S.C. § 102(e) as being anticipated over Spock et al. (U.S. Pat. No. 6,496,305, hereinafter "Spock"). Applicants respectfully traverse the rejection. Claim 4 has been canceled and, therefore, the rejection is moot.

Claim 1-2, 5 and 7-19 were rejected under 35 U.S.C. § 102(e) as being anticipated over Adams (U.S. Pat. No. 6,785,472, hereinafter "Adams"). Applicants respectfully traverse the rejection. Claims 1-2, 5 and 7-19 have been canceled and, therefore, the rejection is moot.

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of Agrawal (Fiber-Optic Communication Systems dated May 28, 2002, hereinafter "Agrawal").

Application No.: 10/607,380

Applicants respectfully traverse the rejection. Claim 3 has been canceled and, therefore, the rejection is moot.

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of (Optimisation of Wavelength Spacing in a WDM transmission in the Presence of Fibre Nonlinearities, hereinafter “Yu”). Applicants respectfully traverse the rejection. Claim 6 has been canceled and, therefore, the rejection is moot.

For the reasons set forth below, Applicants submit that new claims 20-31 are free from the applied art.

Spock recites the term “wide channel spacing” (at col. 8) but does not appear to teach or suggest signal channels with an optical frequency spacing of 400 GHz to 12.5 THz, as required in each of independent claims 21, 23 and 30. Thus, Spock does not identically describe every limitation of the present claimed inventions and, therefore, Applicants submit that independent claims 21, 23 and 30 are free from the art of record.

Moreover, Adams teaches a configuration for amplifying light of 1510-1590 nm by one pumping channel of 1465 nm. In contrast, the present claimed subject matter performs Raman amplification using two or more pumping channels, as required in each of independent claims 21, 23 and 30. Thus, Adams does not identically describes every limitation of the present claimed inventions and, therefore, Applicants submit that independent claims 21, 23 and 30 are free from the art or record. The secondary references to Yu and Agrawal fail to remedy the above argued deficiencies of Adams. Agrawal fails to disclose or suggest Raman amplification using two or more pumping channels. Further, Yu simply describes the relationship between the absolute value of chromatic dispersion and an occurrence efficiently of FWM (Four-Wave Mixing), but does not teach or suggest a configuration of “wide channel spaced transmission systems.” Thus, even if the

references are combined the claimed inventions will not result. Accordingly, the remaining dependent claims are patentably distinct in view of their dependencies from their respective independent claims.

Applicants gratefully acknowledge the Examiner's indication of allowable subject matter. Claim 4 was indicated as being allowable if recast in independent form. For the reasons set forth above, new claims 20-31 are patentably distinct over the applied art. Moreover, Applicants note the Examiner's Statement of Reasons for Allowance included on page 6 of the Office action. Entry of that Statement into the record should not be construed as any agreement with or acquiescence by Applicants in the reasoning stated by the Examiner. Applicants positions on the issues appear in Applicants' response. The Statement of Reasons for Allowance should not be used to interpret the cited claims, particularly to the extent if any that the Statement of Reasons for Allowance may differ from the express language of the claims and/or Applicants' positions on patentability of those claims. It is respectfully submitted that the allowed claims should be entitled the broadest reasonable interpretation and broadest range of equivalents that are appropriate in light of the language of the claims, the supporting disclosure and Applicants' prosecution of the claims, without reference to the Statement of Reasons for Allowance.

It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

Application No.: 10/607,380

including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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